General Science Model Test Questions 18 With Answers [Physics - 3]

1.   According to Kepler's first law of planetary motion, planets move in

       (A) Straight lines   **(B) Elliptical orbits**   (C) Circular orbits   (D) A parabola

2.   The values of gravitational constant G is

       (A) 3.766×10^{-11} Nm^2 **(B) 6.673×10^{-11} Nm^2 Kg^{-2}**

       (C) 980 Nm^2 (D) 9.8 ms^2

3.   The ratio of the linear stress to linear strain of a body is called

       (A) Rigidity modulus   **(B) Young's modulus**

       (C) Bulk modulus   (D) Hooke's modulus

4.   Fore the same total weight and the same fuel supply, a multistage rocket is preferred to a single stage rocket, because

       (A) It is cheaper to build a multi stage rocket

       (B) It is easier to assemble a multi stage rocket

       (C) The final velocity achieved by a multistage rocket is higher

       (D) Multi stage rocket is safer to launch

5.   27° C can be expressed as

       (A) 250 K   (B) 200 K   (C) 400 K   **(D) 300 K**

6.   When two resistors, each of value 10 ohms, are connected in parallel, what is the effective value of the combination?

       (A) 4 ohms   **(B) 5 ohms**   (C) 6 ohms   (D) 7 ohms

7.   In optices, the relation between u, v and f is

       (A) $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$ (B) $\frac{1}{u} = \frac{1}{f}, \frac{1}{v}$ (C) $\frac{1}{f} = \frac{1}{u}\frac{1}{v}$ (D) $\frac{1}{v} = \frac{1}{f}\frac{1}{u}$

8.   The half - life period of C^{14} is 5600 years. What is the time required for C^{14} to become 1/4th of its initial size?

       (A) 4000 years   (B) 5600 years   **(C) 11,200 years**   (D) 13,000 years

9.   Light year is the unit of

        (A) Distance   (B) Time   (C) Weight   (D) Intensity of ligh

10.   If an object weighs 60kgm – wt on earth, its weight on surface of the moon will be

        (A) 360kgm – wt   (B) 0kgm – wt   **(C) 10kgm – wt**   (D) 6kgm – wt

11.   A small drop of mercury is spherical due to

        (A) Viscosity   **(B) Surface tension**   (C) Gravity   (D) Elasticity

12.   The unit of power of a lens is

        (A) Decibal   (B) Pascal   **(C) Dioptre**   (D) Stoke

13.   The smallest planet in the solar system is

        (A) Mars   (B) Mercury   (C) Earth   **(D) Pluto**

14.   The time taken by light to travel from the sun to the earth is

        (A) 15 min.   **(B) 8.33 min.**   (C) 4.66 min.   (D) 1.5 min

15.   A convex lens forms an image of a distant object on a screen. If the upper half of the lens is blocked by a paper

        (A) The lower half of the image will be cut off

        (B) The upper half of the image will be cut off

        (C) The image will be full, but its intensity will be reduced

        (d) Nothing will happen to image

16.   A transformer

        (A) Transforms energy   (B) Transforms frequency

        (C) Transforms voltage   (D) Generate e.m.f.

17.   In general, when the temperature of metal is raised, its conductance

        (A) Increases   **(B) Decreases**

        (C) Remains the same   (D) First decreases then increases

18.   "1 Kilowatt – hour" is the unit of

    (A) Energy   (B) Power   (C) Charge   (D) Current

19.   Electromagnetic radiations are given out due to

    (A) Jumping of electrons from low energy level to high energy level

    (B) Jumping of electrons from high energy level to low energy level

    (C) Revolution of electrons on specified orbits

    (D) None of these

20.   One of the following is used for satellite communication?

    (A) Radio waves   **(B) Micro waves**   (C) Light waves   (D) All of these

21.   Arrange in descending order of wave length (Long – Short)

    I. Infra – red   II. Ultra violet   III. Gamma rays   IV. Micro waves

    The correct order is

    (A) IV, I, II, III   (B) I, IV, II, III   (C) I, II, III, IV   (D) III, II, I, IV

22.   Match list-I with list-II correctly and select your answer using the codes given below:

    List-I   List-II

    (a) Ionosphere   1. Volta
    (b) Black holes   2. S. Chandrasekar
    (c) Electric battery   3. E.V. Appleton
    (d) Electromagnetic   4. Hertz

    Codes:

	a	b	c	d
(A)	1	2	3	4
(B)	3	2	4	1
(C)	2	4	1	3
(D)	**3**	**2**	**1**	**4**

23.   Consider the following statements:

    Assertion (A)   : Ultra sonic waves are used for finding molecular structure.

    Reason (R)   : Chemical effects are produced by ultrasonic waves.

Now select your answer according to the coding scheme given below:

(A) (A) is correct, but (R) is wrong

(B) (A) and (R) are correct

(C) (A) is wrong, but (R) is correct

(D) Both are wrong

24.   The colour of outer edge of rainbow will be

(A) Purple   **(B) Red**   (C) Violet   (D) Yellow

25.   When seen through a place of reed glass the green leaves will appear

(A) Almost black   (B) Nearly visible

(C) Natural green colour   **(D) Bluish tint**

26.   A substance is coloured due to the absorption of

(A) U. V. Light   **(B) Visible**

(C) I. R. Radiation   (D) Microwave radiation

27.   Which one of the following is correctly matched?

(A) Anemometer   -   Velocity of wind

(B) Cardiogram   -   Depth of the ocean

(C) Encephalograph   -   Heart movements

(D) Fathometer   -   Brain movements

28.   Match list-I with list-II correctly and select your answer using the codes given below:

List-I	List-II
(a) Radar is used to	1. Determine humidity of air
(b) Hydrometer is used to	2. Determine the light intensity
(c) Photometer is used to	3. Determine the purity
(d) Lactometer is used to	4. Detect flying object

Codes:

	a	b	c	d
(A)	3	1	2	4

(B)   **4**   **1**   **2**   **3**

(C)   2   3   4   1

(D)   1   2   3   4

29.   Which of the following is the proper sequence of colors?

(A) Violet – blue – red   (B) Green – orange - indigo

(C) Red – green – indigo   **(D) Blue – green – yellow**

30.   1 Micron (μ) is

(A) 10^{-9} meter   (B) 10^{-12} meter   **(C) 10^{-6} meter**   (D) 10^{-15} meter

31.   Tiruchirapalli station of All India Radio Broadcasts at a frequency of 1 mega hertz. This is equivalent

(A) 10^3 hertz   **(B) 10^6 hertz**   (C) 10^9 hertz   (D) 10^{12} hertz

32.   Waves produced on the surface of water is

(A) Longitudinal   **(B) Transverse**   (C) Stationary   (D) Electromagnetic

33.   Radioactivity may be

(A) Natural   (B) Artificial

(C) Natural and artificial   (D) None of these

34.   Bending of lights around an obstacle is due to

(A) Interference   (B) Polarisation   **(C) Diffraction**   (D) Dispersion

35.   The splitting of different colours in a prism is called

(A) Polarisation   (B) Diffraction   (C) Interference   **(D) Dispersion**

36.   A speaker converts

(A) Electrical energy into sound energy

(B) Sound energy into electrical energy

(C) Small sound waves into large sound waves

(D) Small electrical waves into large large electrical waves

37.   The spectrum of a source of light is called

(A) Line spectrum   **(B) Continuous spectrum**

(C) Band spectrum   (D) Emission spectrum

38.   X-rays carry

(A) Unit positive charge   (B) Unit negative charge

(C) No change   (D) Two positive charges

39.   The waves received by our television sets are

(A) Light waves   (B) Cosmic waves

(C) Fine particle waves   **(D) Microwaves**

40.   The relation amongst velocity (v), frequency (n) and wave length (λ) is

(A) $v = \lambda/n$ (B) $v = 1/n\lambda$ **(C) $v = n\lambda$**   (D) $v = n/\lambda$

41.   The heavy water project is located at

(A) Kalpakkam   **(B) Tuticorin**   (C) Narimanam   (D) Kayaththar

42.   Girders are always of I-shaped in order to

(A) Reduce depression   (B) Reduce elasticity

(C) Make the house appear beautiful   **(D) None of these**

43.   The heat of neutralization is constant for

(A) Strong acid – Strong base   (B) Strong acid – Weak base

(C) Weak acid – Strong base   (D) Weak acid – Weak base

44.   Melting point of ice is

(A) -7° C   (B) 10° C   (C) 1° C   **(D) 0° C**

45.   Watt = Volt x _____

(A) Ohm   **(B) Ampere**   (C) Metre   (D) Hz

46.   The material which is used to make permanent magnets is

(A) Soft iron   **(B) Steel**   (C) Brass   (D) Bronze

47.   When fast moving electrons are stopped suddenly by a metal target

(A) Alpha rays are produced   (B) Beta rays are produced

(C) Gamma rays are produced   **(D) X-rays are produced**

48.   Liquid metal is

(A) Mercury   (B) Saline   (C) Lead   (D) Zinc

49.   Wright Brothers invented

        (A) Train   (B) Dynamite   **(C) Aeroplane**   (D) Radio

50.   The period of seconds pendulum is

        (A) 0.5 seconds   (B) 1.0 seconds   **(C) 2.0 seconds**   (D) 1.0 seconds

51.   The excess pressure applied at appoint inside a liquid at rest is distributed equally in all
        directions. This principle is known as

        (A) Boyel's law   (B) Charles' law   (C) Avogadro's law   **(D) Pascal's law**

52.   Consider the statement:

        I. If work is to be done, a force must be exerted on the body.

        II. The force must produce motion or displacement.

        III. The force may or may not displace the body

        IV. Work done is more when the force is given perpendicularly to the direction of motion of the
        body.

        Of these statements:

        (A) I alone is correct   **(B) I and II are correct**

        (C) I, II and III are correct   (D) All are correct

53.   Epidiascope is an instrument

        (A) For projecting film on a screen

        (B) Used to measure the depth of an ocean

        (C) Used to measure the specific gravity of a liquid

        (D) Used to measure the velocity of sound in gases

54.   The sky appears to be blue because of

        (A) Reflection of light   (B) Reflection of light

        (C) Scattering of light   (D) Total internal reflection of light

55.   A lunar eclipse occurs when

        (A) The moon comes between the sun and the earth

        (B) The earth comes between the sun and the moon

(C) The sun comes between the earth and the moon

(D) The sun, the moon and the earth are not in the same line

56. Only one of the following is correctly matched. Which one?

    (A) Conversion from the solid state to liquid state   - Freezing

    (B) Conversion from the liquid state to gaseous state   - Fusion

    (C) Conversion from the solid state to gaseous state   - Sublimation

    (D) Conversion from the liquid state to solid state   - Vaporisation

57. What is the quantity of heat required to raise 2 k.gm. of copper from 303 k to 353 k? (Specific heat capacity of copper = 355 J/Kg/K)

    (A) 3.85   **(B) 38500**   (C) 38.5   (D) 0.385

58. In a tape recorder the sound is recorded on the tape as

    (A) Variable magnetic field   (B) Variable electric resistance

    (C) Variable sound   (D) Variable thickness

59. Pipe instrument without reeds is

    (A) Harmonium   (B) Flute   (C) Nadaswaram   **(D) Violin**

60. Beta (β) particle is

    (A) Positively charged particle   (B) Chargeless particle

    (C) Negatively charged particle   (D) None of these

61. Rate of change of momentum

    (A) Velocity   (B) Work   **(C) Force**   (D) Speed

62. Unit of force in the M.K.S. system is

    (A) Pascal   **(B) Newton**   (C) Horse power   (D) Watt

63. One unit of electrical energy consumption is equal to

    (A) 1000 watt per hour   (B) 500 watt per hour

    (C) 100 watt per hour   (D) None of these

64. At sunrise and at sunset the sky appears red, because

    (A) Red light scatters more   **(B) Red light scatters less**

(C) Red light's intensity is more   (D) None of the above

65.   68° Fahrenheit is equal to

(A) 56.1° C   (B) 68° C   **(C) 20° C**   (D) 100° C

66.   The force of attraction between planets was correctly given by

(A) Kepler   **(B) Newton**   (C) Galileo   (D) Ptolemy

67.   A boat moves forward when water is pushed back. The basic physical law applicable here is

(A) Law of floatation   (B) Pascal's law

(C) Newton's second law of motion   **(D) Newton's third law of motion**

68.   The mass of 5 litres of mercury is

(A) 68 kg   **(B) 5 kg**   (C) 4 kg   (D) 68,000 kg

(NOTE: 5 x 13.6 = 68 kg)

69.   Which of the following cannot pass through vacuum?

(A) Light   **(B) Sound**   (C) Electric field   (D) Magnetic field

70.   In a dynamo

(A) Mechanical energy is converted into electrical energy

(B) Electrical energy is converted into mechanical energy

(C) Electrical energy is converted into heat energy

(D) Electrical energy is converted into light energy

71.   Induced e.m.f. is directly proportional to

(A) Rate of change of velocity   **(B) Rate of change of flux**

(C)Rate of change of momentum   (D) None of the above

72.   In a step-up transformer, the number of turns

(A) In the primary is more than in the secondary

(B) In the secondary is more than in the primary

(C) Is same both in the primary and the secondary

(D) None of the above

73.   Can D.C. voltage be used in a transformer?

(A) Yes   **(B) No**   (C) Some times   (D) None of the above

74.   The condition for total internal reflection of light is, a ray must

(A) Pass from denser to rarer medium   (B) Pass from rarer to denser medium

(C) Be in the same medium   (D) None of these

75.   Sea water turns into ice at what temperature?

(A) 4° C   (B) -2.5° C   (C) 2.5° C   (D) 0° C

76.   The weight of a body is

(A) The same everywhere on the surface of the earth

(B) Maximum at the poles

(C) Maximum at the equator

(D) More on the hills than on the plains

77.   A person climbing a hill bends forward in order to

(A) Avoid slipping   (B) Increase speed

(C) Reduce tirednessed   **(D) Increase stability**

78.   Mirage observed on a road on hot days is in consequences of

(A) Refraction of light   **(B) Reflection of light**

(C) Polarisation   (D) Diffraction of light

79.   Persipiration is maximum when

(A) Temperature is high and air is dry

(B) Temperature is high and air is humid

(C) Temperature is low and air is humid

(D) Temperature is low and air is dry

80.   Name the organism which flies with the help of ultrasonics?

(A) Owl   **(B) Bat**   (C) Dragonfly   (D) Housefly

81.   Instrument used to measure earthquake shocks

(A) Anemometer   (B) Pyrometer   (C) Hygrometer   **(D) Seismometer**

82.   One horse power is equal to

(A) 746 watts   (B) 744 watts   (C) 745 watts   (D) 747 watts

83.   Mercury boils at

       (A) 100º C   **(B) 357º C**   (C) 847º C   (D) 189º C

84.   The purity of milk is measured with

       (A) Barometer   **(B) Lactometer**   (C) Galvanometer   (D) Hygrometer

85.   Instrument used in a submarine to see over the top when it is submerged

       (A) Telescope   (B) Epidiascope   **(C) Periscope**   (D) Microscope

86.   Printing for the blind was introduced by

       (A) Michael Faraday   **(B) Lousis Braille**

       (C) Harvey   (D) Carton

87.   The filament of an electric bulb is made of

       (A) Tungsten   (B) Aluminium   (C) Carbon   (D) Platinum

88.   The planet near to the sun

       (A) Venus   (B) Jupiter   **(C) Mercury**   (D) Saturn

89.   Crystal dynamic was invented by

       (A) Volta   (B) Graham Bell   **(C) C.V. Raman**   (D) Napier

90.   How do foodstuffs remain fresh in refrigerator?

       (A) Through freezing

       (B) By discarding germs

       (C) By regulation of temperature

       (D) By preventing fermentation due to very low temperature

91.   Television was invented by

       (A) J.L. Baird   (B) Samuel Weston   (C) Marconi   (D) W. Shockley

92.   The one used in the preparation of lenses and prisms

       (A) Soda glass   (B) Flint glass   (C) Quartz glass   (D) Pyrex glass

       NOTE: Optical glass

93.   When the mass and velocity are doubled, the kinetic energy will

(A) Remain the same   (B) Increase twice

(C) Increase 6 times   **(D) Increase 8 times**

94.   Colour formation in this films is due to

(A) Reflection   (B) Refraction   **(C) Interference**   (D) Diffraction

95.   The power of a lens is measured in

(A) Joule   (B) Candela   (C) Decibel   **(D) Dioptre**

96.   Photometers are instruments used to measure

(A) Thermal radiations

(B) Electricity intensity

(C) Intensity comparison between different light sources

(D) Distances

97.   Rays from the head light of a car is rendered parallel by

(A) Concave mirror behind the light   **(B) Concave lens in front of the light**

(C) Concave mirror in front of the light   (D) Convex mirror behind the light

98.   The diameter of the aperture of a camera is doubled. To compensate this the aperture time in shutter should be

(A) Doubled   (B) Made 4 times   **(C) Made ½**   (D) Made1/4

99.   Excited atoms gives rise to _____ spectrum.

(A) Absorption   (B) Continuous   **(C) Line**   (D) Raman

100.   The wheel of forward moving vehicle has 8 supporting spokes. It is photographed on a motion picture film which runs at a speed of 24 films per second. The wheel appears to be in the film. If the speed of rotation/sec. of the wheel is

(A) 1   **(B) 3**   (B) 4   (D) 1/3